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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,578

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Yasushi Uchida

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1842

25944 7590 04/08/2009

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EXAMINER

KEMMERLE III, RUSSELL J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/531,578	<b>Applicant(s)</b> UCHIDA ET AL.	
	<b>Examiner</b> RUSSELL J. KEMMERLE III	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9, 11 and 13-18 is/are pending in the application.  
4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9, 11, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>31 December 2008</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 112***

In view of the current amendments to the claims the previous rejections under 35 USC §112, first and second paragraph, are withdrawn.

#### ***Double Patenting***

Claims 9 and 11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7 and 9 of copending Application No. 10/531,873. This rejection was first made in the non-final Office action dated 20 September 2007, and having not been addressed by the Applicant is maintained.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Claim Rejections - 35 USC § 103***

Claims 9, 11, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beall (WO 01/16049) in view of Hamaguchi (US Patent 5,069,697).

Beall discloses a method of forming a ceramic honeycomb body involving kneading a mixture of magnesium oxide, aluminum oxide and silicon oxide (i.e., an

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aggregate particle material), with an organic binder system including water. This mixture is then formed into a honeycomb shaped green body, dried and fired (the firing process would inherently involve also calcining the body since it is fired at a temperature above the calcining temperature of such a body) (claim 1).

Beall further discloses that the silica could be in the form of colloidal silica (page 8 lines 8-9) and be in an amount of at least 5% by weight of the inorganic raw material mixture (aggregate particle material) (that is, the colloidal particles are added in proportion to the amount of aggregate material) (claim 4).

Beall does not specifically disclose an additive put in for the purpose of forming pores having a composition different than the organic binder.

Hamaguchi discloses a method of making a porous ceramic honeycomb filter that is substantially similar to the process of Beall as discussed above. Hamaguchi further discloses that the composition which is extruded into a honeycomb shape included a pore forming agent (Col 3 line 34 – Col 4 line 10).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method of Beall as discussed above by adding a pore forming agent as taught by Hamaguchi (specifically graphite). This would have been obvious because a dedicated pore forming agent would allow for the greater control of both the total amount of porosity in the finished article, as well as the size of those pores. This would be desirable both as a way of creating articles matching desired specifications, as well as creating articles that maintain consistency throughout the batch.

Beall includes teachings that the aggregate material include alumina as discussed above. Further, Beall teaches that the mixture created include the aggregate material in an amount of at least 50% by mass (page 9 lines 9-21, based on the amount of additives disclosed being less than 50% by mass).

Referring to claim 11, Beall further discloses adding 0.2-2 parts by weight of sodium stearate (an alkali metal source) based on 100 parts by weight of the aggregate particle material (page 9 lines 17-21).

Referring to claim 17, Beall discloses that a preferred binder is methyl cellulose (page 9 lines 13-16).

Referring to claim 18, Hamaguchi specifically discloses that the pore forming agent be graphite (Col 3 line 34 – Col 4 line 10).

### ***Response to Arguments***

Applicant's arguments filed 19 February 2009 have been fully considered but they are not persuasive.

Applicant argues that the colloidal silica disclosed by Beall is used as part of the alleged aggregate particle material, and that the designation of which material lie in and out of the aggregate particle designation is relevant because claim 9 recites that the colloidal particles are added by mass based on the separate mass of the aggregate particle materials.

This is not found to be persuasive. As discussed in the previous Office action claim 9 requires the mixing and kneading of an aggregate particle material (a ceramic

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and/or metal, specifically defined in the specification as being one or more selected from a group including alumina and others, page 5 lines 3-7), water, an organic binder, a pore-former and colloidal particles, followed by shaping and further processing of the mixture. Beall, as discussed above, teaches the creation of a mixture of alumina (or other ceramics, i.e., a aggregate particle mixture), an organic binder system including water, and colloidal silica (the pore-former being added by the combination of Hamaguchi as discussed above). Beall teaches every limitation required by claim 9 (with the exception of the pore former), and the fact that the same group of materials are mixed and treated in the same manner can not be overcome by placing arbitrary labels on some of the materials used.

Applicants next argue that Table I of the specification details the criticality of the addition of the colloidal particles as a separate additive, which Applicants argue Beall does not disclose.

Table I appears to only disclose the criticality of using colloidal particles in the clay, which as discussed above Beall teaches.

Applicants next argue that Beall does not disclose a method where colloidal particles are added to the clay in proportion to the amount of aggregate particle material in the clay, at a portion of 0.1-10 parts by mass of the colloidal particle for every 100 parts by mass of the aggregate particle material.

This is not found to be persuasive, because when a specific formula for a mixture is set out (as is done in Beall) every material could be considered to be determined in proportion to every other material, since that is the only way the formula would function

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properly as intended. Specifically Beall discloses that the silica (which may be colloidal) be at least 5 wt% of the total inorganic raw materials (claim 4). That is to say, that the weight ratio of the (colloidal) silica to the rest of the ceramic materials (aggregate particle material) is  $>5$  to  $<95$  parts. Converting that to be based on 100 parts of ceramic (aggregate particle) material would give a (colloidal) silica amount of greater than 5.3 parts, within the currently claimed range.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **RUSSELL J. KEMMERLE III** whose telephone number is (571)272-6509. The examiner can normally be reached on Monday through Thursday, 7:00-5:00 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. J. K./  
Examiner, Art Unit 1791

/Eric Hug/  
Primary Examiner, Art Unit 1791